



REQUEST FOR BID PROPOSAL

1.0 GENERAL INFORMATION

Project: **Containment Barrier Wall Design & Construction**
Midco I
National Priority List (NPL) Site
15th Avenue
Gary, Indiana

Consultant / CM: ENVIRON International Corporation
740 Waukegan Road
Suite 401
Deerfield, IL 60015
Attention: Ronald Hutchens
Telephone: (847) 444-9200
Fax: (847) 444-9420

You are invited to submit a **lump sum bid for the complete design and construction of a containment barrier wall** at the Midco I site in Gary, Indiana. Sealed bids will be received by Ronald Hutchens at the ENVIRON International Corporation ("ENVIRON") office named above until _____, _____ at _____.

Facsimile transmission of bids will not be accepted.

All questions about the meaning or intent of the Request for Bid shall be directed to Ron Hutchens in writing (Facsimile transmissions are acceptable). Questions will be accepted until _____ on _____. Interpretation or clarifications considered necessary by ENVIRON in response to such questions will be issued by Addenda (either mailed or faxed) to all parties receiving the Request for Bid. Only

questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

The Contractor shall provide a lump sum bid for the project as described in this Request for Bid. Bids will be opened in private. ENVIRON reserves the right to waive any irregularities and to reject any or all bids. The Bidder shall submit with his bid a detailed schedule of values for work to be performed, listing work categories and quantities, major equipment, and values. This schedule will be used if the scope of work changes during design and/or construction.

A pre-bid meeting will be held at the site on _____ at _____. Attendance at the pre-bid meeting is **mandatory** to qualify for bid submission. A site location map and site map are provided in Appendix A.

1.1 Contractual Relationships

ENVIRON is under contract to the Midco Remedial Corporation ("MRC") to provide certain engineering and construction services necessary to perform the Work required pursuant to certain terms and conditions of a Consent Decree. ENVIRON is seeking to retain the services of a Subcontractor for design and construction of a containment barrier wall that minimizes the migration of groundwater through the site and ties into an existing perimeter barrier wall. An ENVIRON Subcontractor Agreement is attached in Appendix B.

1.2 Site Locations and Surrounding Area

The Midco I Site is located in a mixed area of commercial and industrial use along with limited residential areas and is within the Gary/Chicago Airport Development Zone. The Midco II Site is situated in a predominantly industrial area and within the proposed expansion of the Gary/Chicago Airport Development Zone. The nearest residences are situated about 900 feet south of the Midco I Site and one mile southeast of the Midco II

Site. The Midco I Site is located at 7400 West Fifteenth Avenue in the southwest quarter of the northwest quarter of Section 11, Township 36 North, Range 9 West, in the southwestern portion of Gary, Indiana.. The property is bordered on the west and southwest by an Indiana Department of Transportation (INDOT) facility; on the east by a privately owned parcel currently leased to Roadway Express; on the south by an auto parts distributor; and on the north by several small, privately owned undeveloped parcels of land. Wetlands and construction debris are present in the vacant parcels surrounding the site to the north and east.

1.3 Project Information

Types and levels of contamination expected to be encountered as part of the Work are described in the attached Attachment C. In addition, the attached Table 1 provides information regarding the constituents and range of concentrations identified in the groundwater at the site. It should be noted that subsurface trash and debris will likely be encountered (e.g., cable, concrete, etc.) during the installation of the containment barrier wall. Provisions should be included in the lump sum bid to relocate the material to on-site location(s) designated by ENVIRON. **The report does not indicate the exact alignment of the containment barrier wall that is part of this scope of work.**

*which report?
what does it indicate?*

Bidder is advised that studies and data reported by ENVIRON and others ^{were} ~~was~~ performed to determine the feasibility of different actions considered at the site. Bidder should not rely ^{solely} on interpretations or conclusions presented therein. Bidder should form their own conclusions as to the meaning of the raw data available. The Bidder is instructed to obtain or confirm the information needed to produce their Bid. Information is available at the offices of ENVIRON in both Chicago and Deerfield, Illinois, and at the USEPA Superfund ^{Records Center} ~~reading room~~ in Chicago. _{offices}

Information contained in previous report(s) is offered for information purposes only.

Reliance on this information for the Bidder to provide Bids, design and services will not

If the MRC does not provide interpretation of data, will not this result in high bids?

relieve the Bidder of obligations to execute the Work as specified at the proposed price. Assumptions made by the Bidder are required to be stated in a separate section of the Bidder's proposal.

1.4 Containment Barrier Wall Objective

The objective of the containment barrier wall is to provide a continuous, vertical, hydraulic cutoff to isolate subsurface contamination and prevent migration ^{of ground water?} The containment barrier wall must maintain a hydraulic conductivity no greater than 1×10^{-7} cm/sec. The design of the containment barrier wall should account for the fact that the wall will be exposed to known contaminants and concentrations for an extended period of time. Pump and treat operations inside the containment barrier wall ^{should} ~~will~~ result in isolated or broad areas that are completely dewatered, resulting in a potential of 30 ft of hydraulic head (and thus gradient) on the containment barrier wall.

2.0 AGREEMENT

An ENVIRON Subcontractor Agreement (Appendix B), including its conditions, is made part of this Request for Bid. The selected Contractor will be required to enter into the ENVIRON Subcontractor Agreement. Any exceptions to the Agreement must be noted in the Bidders bid.

3.0 CONTRACT SCHEDULE

If the bid is accepted, work will be completed within the time frame described below:

- Bids Due:
- Contract Award:
- Final Design Due:
- Begin Construction:
- Substantial Completion:
- Construction Complete:
- Submit Construction Documentation to ENVIRON:

4.0 LIQUIDATED DAMAGES

The design and construction schedule is dependent on certain reviews and approvals by the MRC, Region V of the U.S. EPA, and the Indiana Department of Environmental Management (IDEM). The selected Bidder (Contractor) shall facilitate design approval in accordance with the stated schedule. With prior written consent from ENVIRON, the construction schedule can be delayed due to currently unanticipated delays in design reviews and approvals by others. However, construction must be substantially completed no later than the Contract Schedule as stated or the Contractor may be subject to liquidated damages of \$1000.00 per day plus any stipulated penalties imposed on the MRC under the Consent Decree. For purposes of this project, substantial completion is defined as completion of the installation of the containment barrier wall. Contractor cleanup and demobilization can be completed after substantial completion.

5.0 BONDS, WARRANTY, AND INSURANCE

5.1 Bonds

1. Contractor shall furnish a Performance Bond and a Labor and Material Payment Bond in the amount of 100% of the Contract Sum prior to the time of signing the Contract. Performance and Payment Bonds shall be executed by a Surety company satisfactory to the Owner.
2. Such Bonds among other conditions, shall include payment for all material used in Work and for all labor performed, whether by Subcontractor or otherwise. Cost of Performance Bond and Payment Bond shall be included in the Contract Sum.
3. Said bonds shall remain in full force and effect, during the life of the Contract and during term of any warranty required by Specifications.
4. Contractor shall keep Bonding Company informed of changes in amount of the Contract Sum and shall furnish ENVIRON with copies of notices of such changes.
5. If laws of Federal, State or Local Governments or other authorities which have lawful jurisdiction contain provision beyond any requirement specified herein or require other bond forms, such laws shall govern and bonds shall be furnished in accordance therewith.

5.2 Warranty

The Bidder shall warranty the construction of the barrier wall for a period of one year, beginning at the completion of construction of the interior barrier wall. If during the warranty period, the barrier wall fails to meet the performance criteria, Bidder shall replace or repair the barrier wall in accordance with the contract terms at no cost to MRC or ENVIRON.

5.3 Insurance

As stipulated in the Agreement (Appendix B).

6.0 SUMMARY OF WORK

The Work included in this Request for Bid includes the following:

1. Complete the design and construction of the containment barrier wall that meets the objective stated in this Request for Bid. The containment barrier wall shall be designed to function for a minimum period of 30 years. The containment barrier wall will generally extend along the proposed final alignment as shown on the drawings attached in Appendix D. *70.57*
2. Design shall include detailed plans and specifications for the installation of the containment barrier wall, including a construction quality assurance plan. The Bidder shall attend meetings with and make presentations to, as necessary, ENVIRON, the MRC, the U.S. EPA, and IDEM to gain approval for the Bidder's containment barrier wall design.
3. Construction of the containment barrier wall shall include obtaining any and all necessary permits; furnishing all labor, equipment, and materials; and performing all operations required to construct the barrier wall. Bidder must provide necessary stormwater runoff and erosion control features to protect adjacent surface waters.
4. If a soil-bentonite containment wall is proposed by the Bidder, the proposed mix design and results of testing shall be submitted with the final design. Bidder shall assure that samples used for design and testing are suitable for the intended purpose.
5. Bidder shall properly dispose of any soil cuttings and/or excess containment barrier wall construction materials. Materials not passing the paint filter test shall be *exceed the soil or gravel (ALS).* drummed in 55 gallon containers or otherwise contained in a manner acceptable to ENVIRON. The Bidders shall list the expected waste materials, quantity, if any, and proposed disposal location. ENVIRON and the MRC must approve of the selected waste disposal facilities prior to use.
6. Bidder shall leave the site free of debris at the end of construction and restore areas used during installation of the containment barrier wall to pre-construction conditions as specified by ENVIRON. The finish elevation of the containment barrier wall shall be the existing grade.

Why not contain on-site?

7. Bidder shall inform ENVIRON of all known utility and accessibility conflicts that the barrier wall will impact two (2) weeks prior to the start of construction. The Bidder is responsible for disconnecting and reconnecting all site utilities that will be effected by construction. The Bidder's design shall include sufficient narrative and drawing details to address reconnection of surface and subsurface utilities to be crossed by the containment barrier wall. The recommendation details shall allow for safe and permanent containment routings of surface and subsurface utilities without compromising the integrity of the containment barrier wall or the containment barrier wall warranty.
8. Bidder shall specify maintenance requirements of the containment barrier wall to maintain the warranty and design basis. Such requirements may include load limitation on or near the barrier wall or ground surface, operating temperature limits or future utility penetrations.

reliably

7.0 PERFORMANCE

The containment barrier wall shall be ~~keyed~~ *reliably* into the clay confining layer, to an adequate depth, designed by the Bidder, to maintain a vertical hydraulic barrier. The containment barrier wall shall not fully penetrate the confining layer, or cause the migration of groundwater between any aquifers.

The Bidder shall provide daily documentation for the containment barrier wall construction and perform construction quality control testing. However, as stated in the Warranty, the barrier wall must be at a minimum, able to demonstrate performance in meeting the objective stated herein for a period of five years beyond construction completion.

ENVIRON reserves the right to perform quality assurance testing to verify the performance standard of the barrier wall construction. Any discrepancies between the quality control sampling and the quality assurance sampling will be re-sampled at the contractors expense.

Any faulty workmanship will be repaired solely at the contractors expense.

1. Need ~~geologic~~ ^{technical} borings 1/100-200ft along route of wall,
2. Key depth 2-4 ft.
3. Wall thickness 2ft. — prevent hydrofracturing. *pp 23-24.*
4. Trench stability analysis.
5. Backfill perm 10^{-7} in/sec
6. Backfill perm testing : 3.
7. Trench slurry compatibility 3 tests
8. Long-term backfill compatibility : 3 tests
9. ~~Conf. Barrier interface~~ :
10. Protection from desiccation :
11. Protection from surface loading
12. Protection from subsurface breach
13. Seepage & erosion control
14. 30-year life.
- * 15. Permeability test by dewatering — having to return it unable to dewater

8.0 SUBMITTALS

8.1 Bid Submittal

Bidder shall submit three (3) copies of the following information with the bid:

1. Completed Statement of Bidder's Qualifications and Experience.
2. A list of Bidder's Subcontractors (if any), their role and responsibility, their pertinent qualifications and experience, and their percentage involvement in relation to the total lump sum bid.
3. Narrative explaining that the proposed containment barrier wall method and materials shall be compatible with the contaminants located on-site.
4. Narrative explaining why the proposed containment barrier wall method is the best alternative for the site conditions.
5. Consideration whether the proposed containment barrier wall construction method will cost effectively meet the intent of the design.
6. Experience with the proposed containment barrier wall method on other NPL or similar sites.
7. Narrative and drawings, as necessary, illustrating the preliminary design of the containment barrier wall. The preliminary design shall include at a minimum:
 - A. Design approach
 - B. Construction approach
 - C. Preliminary specifications
 - D. Working area needed during construction
 - E. Any site specific problems identified
 - F. Detailed project schedule from design through construction completion including scheduling requirements within the MIDCO operating facility
 - G. Estimate of impacts to the Midco facility ^{and adjacent facilities.} and approach to minimize or eliminate potential impacts
 - H. Resumes of key design and construction personnel including construction manager, construction foreman, quality assurance representative, and key equipment operations

8. Lump sum price
9. Schedule of values, to include design, construction, and warranty costs.
10. All Bond and Insurance information required by this Request for Bid.
11. In separate sections of the Bid, list assumptions made by the Bidder, a description of conditions that, if encountered, would inhibit the Bidder's work and necessitate a change order for Differing site Conditions and exceptions to the Subcontract Agreement.

8.2 Final Design Submittal

The successful Bidder shall submit twenty (20) bound copies and one unbound copy of a Final Design Report, which ENVIRON will submit to the MRC, USEPA, and IDEM for review and approval (the contractor should assume that the report will require revision and submittal for approval) as part of a 100% design submittal. In addition, the Report shall be provided in electronic format acceptable to ENVIRON and the MRC. The Final Design Report shall consist of, at a minimum:

1. A cover letter under the seal of registered Indiana professional engineer, stating that the barrier wall design and Design Report were performed by or under his/her direction, and that the design will meet the objectives indicated.
2. Narrative, tables, calculations, and test results, as necessary, to fully explain the design basis for the barrier wall to achieve the stated objective.
3. Drawings including the final alignment and construction details. Drawings shall be presented on 22 inch by 34 inch plan sheets.
4. Narrative and drawings shall include as a minimum:
 - Design approach
 - Construction approach
 - Final specifications
 - Construction ^{QA} quality control plan *including*
 - Sequencing of construction

acceptable level of testing in Table 3-4, and components in CD - 50th.

-
- Means and methods for dealing with ^{soil}waste, debris, and/or fill materials along with alignment
 - Means and methods for daily clean-up and area restoration within MIDCO operating facility
 - Special utility or access arrangements required
 - Means and methods for daily clean-up and area restoration within MIDCO operating facility
 - Special utility or access arrangements required
 - Means and methods for sealing subsurface utility penetrations
 - Detailed construction
 - Contractor health and safety plan
 - Resumes of the construction manager, construction foreman, construction quality assurance representative, and key equipment operator(s) (as appropriate) who are contemplated to be assigned once construction begins (once accepted, these key personnel can not be changed without a prior written request and a subsequent written approval from ENVIRON)
 - Method for connecting to existing barrier wall (2 locations). [?]₁
5. If a soil-bentonite containment wall is proposed, the results of the mix design and compatibility testing, as well as the source and physical properties imported soils for backfill (if any) shall be included in addition to items furnished under 1 through 4.
6. If a deep soil mixing wall is proposed, the proposed soil additives and their compatibility with site contaminants shall be included in addition to items furnished under 1 through 4.
7. If a sheet pile wall is proposed, the proposed method for sealing the interlock joints and compatibility with site contaminants shall be included in addition to items furnished under 1 through 4.
8. If a geomembrane panel wall is proposed, the proposed method for sealing the interlock joints, the method of panel installation (e.g., slurry trench or vibratory

mandrel), and the compatibility with site contaminants shall be included in addition to items furnished under 1 through 4.

9. If a vibrating beam wall is proposed, the proposed method for ensuring continuity of the barrier wall, the proposed mix design and its compatibility with site contaminants shall be included in addition to items furnished under 1 through 4.
10. If a combination of methods are proposed, the applicable requirements for submittals under items 5 through 9 shall be included in addition to items furnished under 1 through 4.

*Final schedule
Long-term maintenance & monitoring req.*
8.3 Construction Documentation Submittal

Within thirty (30) days of final completion of construction, the Bidder shall submit twenty (20) bound copies and one unbound copy of a Construction Documentation Report to ENVIRON. In addition, the Report shall be provided electronically (see prior specified software requirements). The Report shall consist of the following, as a minimum:

1. A cover letter under the seal of a registered Indiana professional engineer stating whether the barrier wall has been constructed in conformance with the approved Final Design Report, Specifications, and Construction Quality Assurance Plan. Any deviations from the Final Design Report shall be noted and explained.
2. A detailed narrative describing the construction in chronological order. Particular attention shall be given to any deviations from the approved Final Design Report, Specifications, and Construction Quality Assurance Plan
3. Summary tables of record depths, elevations, and field and laboratory results, and appendices containing laboratory test reports and labeled 35 millimeter color photographs documenting the major aspects of construction.
4. A set of 22 inch by 34 inch as built plan sheets showing the record final alignment and details.

9.0 MEETINGS

The Bidder shall attend the following mandatory meetings; however, additional meetings may be identified during the construction period:

- Prebid Meeting at the site
- Design Kickoff Meeting
- 50% Design Meeting
- 100% Design Basis Meeting
- Preconstruction Meeting
- Site Safety Orientation
- Weekly Site Progress Meetings at the time to be agreed upon at the Preconstruction meeting
- Substantial Completion Walk Through Meeting
- Construction Completion Meeting

10.0 HEALTH AND SAFETY

1. Bidder shall be solely and completely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Bidder shall take all necessary precautions for the safety of, and provide the necessary protection to prevent injury or loss to all Bidder's employees and subcontractors.
2. Bidder shall comply with all applicable OSHA regulations. The Bidder's Health and Safety Plan does not supersede or in any way relieve the Contractor of obligations under any applicable OSHA regulations including 29 CFR 1910: Occupational Safety and Health Standards and 29 CFR 1926: Health and Safety Regulations for Construction.
3. At the Preconstruction Meeting, the Bidder shall submit two copies of documentation that the Bidder has the required training under OSHA 29 CFR 1910.120 for its own and its subcontractors personnel, and that all site personnel are included in a medical surveillance program in accordance with 29 CFR 1910.120, and that personnel are medically examined and approved to for wearing respiratory protection.

11.0 BID FORM

1. The undersigned Bidder proposes and agrees, if the bid is accepted, to enter into an agreement with ENVIRON to perform and furnish all Work specified or indicated in this Request for Bid for the Contract Price within the Contract Time indicated in the bid, and in accordance with the other terms and conditions of this Request for Bid.
2. This bid shall remain valid for ninety (90) days after the date of the bid due date. Bidder will sign and submit the Contract and other documents required by this Request for Bid within fifteen (15) days after the date of the Notice of Award.
3. Bidder has examined and received the following Addenda:

<u>Date</u>	<u>Number</u>
<hr/>	<hr/>
<hr/>	<hr/>

4. Bidder will complete the Work in accordance with this Request for Bid for the lump sum price stated below. A Schedule of Values is attached which will be used if currently unanticipated changes are made in the Bidder's scope of work during the barrier wall design and/or construction:

- Design Containment Barrier Wall \$

- Construct Containment Barrier Wall \$

- Total Lump Sum Price \$

- Written Total Lump Sum Price

Communications concerning this Bid shall be addressed to:

Name

Signed by (also list title):

Address

Bid submitted on _____
Date

Appendix A

Site Location Map

Appendix B

Subcontractor Agreement

Appendix C

Types and Levels of Contaminants

Appendix D

Proposed Containment Wall Alignment

Appendix E
Geologic Cross Sections

Appendix F

Mdico I Site Layout